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ATTITUDES TOWARD EDUCATION AND GENERAL SOCIAL ATTITUDES--A "Q" STUDY.

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THREE STRUCTURED Q SORTS CONTAINING LIBERAL, CONSERVATIVE, PROGRESSIVE, AND TRADITIONALIST STATEMENTS ENABLED THE INVESTIGATOR TO TEST THE HYPOTHESIS THAT INDIVIDUALS WHO ARE LIBERAL IN THEIR SOCIAL ATTITUDES WILL TEND TO BE PROGRESSIVE IN THEIR EDUCATIONAL ATTITUDES, WHEREAS INDIVIDUALS WHO ARE CONSERVATIVE IN THEIR SOCIAL ATTITUDES WILL TEND TO BE TRADITIONALIST IN THEIR EDUCATIONAL ATTITUDES. TO ANALYZE INTRA-INDIVIDUAL AND INTER-INDIVIDUAL DIFFERENCES, 36 SUBJECTS WERE SELECTED, NINE REPRESENTING EACH OF THE FOUR ATTITUDES. THE HYPOTHESIS OF LIBERAL-PROGRESSIVE AND CONSERVATIVE-TRADITIONAL PATTERNS WAS GENERALLY SUPPORTED BY ANALYSIS OF VARIANCE, FACTOR ANALYSIS, AND DETERMINATION OF COEFFICIENTS OF CONGRUENCE. THIS PAPER WAS PRESENTED AT THE ANNUAL MEETING OF THE AMERICAN EDUCATIONAL RESEARCH ASSOCIATION (NEW YORK, FEBRUARY 17, 1967). (JK)

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# ATTITUDES TOWARD EDUCATION AND GENERAL SOCIAL ATTITUDES: A "Q" STUDY*

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What is the relation between general social attitudes and attitudes toward education? If there is a hierarchical system of attitudes as has been proposed by Eysenck (1954), among others, then it would be expected that the attitude structure of individuals holding the same general attitude would be similar. Eysenck distinguishes among four different levels of organization or structure, namely non-reproducible opinions, reproducible opinions, attitudes, or super-attitudes or ideologies. Attitudes, in this model, are comprised of a set of interrelated opinions about a cognitive object. These attitudes, in turn, "are themselves correlated and give rise to what we might call super-attitudes or ideologies." (Eysenck, p. 113) It is with the levels of attitudes and ideologies that this paper is concerned. What Eysenck calls ideologies may also be referred to as a generalized or a general attitude. Education is a cognitive object; it is also ~~In this study, education is~~ considered to be part of the general social milieu. It was therefore hypothesized that individuals who are liberal in their social attitudes will also tend to be progressive in their educational attitudes and individuals who are conservative in their social attitudes will also tend to be traditional in their educational attitudes.

In a study done as preliminary to the present one, the author found that progressivism and traditionalism are basic dimensions of educational attitudes.

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These dimensions were found to be factorially invariant under different conditions of item and subject sampling. Kerlinger et al report similar findings.

General social attitudes have, during the past forty years, assumed a major role in attitude measurement. The existence of liberalism and conservatism as basic dimensions of social attitudes has been fairly well established although, from the factor analytic studies available, these have generally emerged as one bipolar factor whereas the factor analytic studies of educational attitudes have generally yielded two major orthogonal factors rather than one bipolar factor. This difference in the factor structure is beyond the scope of this presentation.

## Method

The basic methodology in this study was the Q technique. Structured Q sorts enabled the investigator to test the hypothesized attitude structure, and to analyze intra-individual and inter-individual differences.

Three Q sorts were used:

1) An 80 item educational attitude sort that contained 40 progressive and 40 traditional statements, developed and used by Kerlinger. This sort is referred to as KQED.

2) A 60 item educational attitude Q sort constructed by the writer, which contained 30 progressive and 30 traditional statements, referred to as SQED. None of the statements were duplications of KQED items.

3) The third instrument was a 60 item social attitudes Q sort consisting of 30 liberal and 30 conservative statements, which ~~in the attitudes~~ were further subdivided into 15 economic and 15 general social items each.

Each subject, then, sorted the three decks. The order remained constant throughout the testing with the social attitudes deck being sorted between KQED and SQED.

In Q methodology the subjects are often not chosen at random but rather according to "known" characteristics. Related to the two part design of this study (although only the second part is being reported) "known" characteristics were either educational attitudes or social attitudes. It was further necessary to identify the liberals and the conservatives within the group of subjects whose social attitudes were known. Similarly, the progressives and traditionalists among the group of subjects with known educational attitudes were identified. The sample of 36 subjects was thus subdivided into 9 liberals, 9 conservatives, 9 progressives, and 9 traditionalists.

Each subject's Q sorts were subjected to analyses of variance. The educational attitudes sorts, which were structured as one-way, were analyzed by simple analyses of variance. The social attitudes sort, which was structured as a two-way sort, that is, by attitude and area, was analyzed by a 2 X 2 analysis of variance. The significance between attitudes F ratios obtained in all the analyses of variance were qualitatively compared by inspection.

In addition to the analyses of variance, results for all subjects for each of the three Q sorts were correlated. This resulted in three 36 X 36 intercorrelation matrices. The three matrices were then each subjected to principal components factor analysis. The resulting factors were rotated orthogonally using the normal varimax criterion.

To determine the degree of factorial similarity between the major factors obtained for KQED and SQED and the major factors obtained from the social attitudes Q sort coefficients of congruence (also called index of factorial similarity) were computed.

## Results

Analysis of variance. All subjects chosen for "known" social attitudes had significant F ratios at $P \leq .001$ for the social attitudes Q sort, as would be expected, in the direction corresponding to the attitude for which they were chosen. Each of the liberal subjects also had a significant mean difference between the progressive and traditional statements in the direction of the progressive statements on the educational attitudes Q sorts. Of the nine conservative subjects five had significant mean differences in the direction of the traditional statements. The other four did not show any significant mean differences between the progressive and traditional statements. Of the 18 subjects chosen for "known" educational attitudes the results of only two subjects, one traditional and one progressive, did not fit the hypothesized pattern of significant liberal-progressive means or conservative-traditional means. In summary, then, the significant F ratios between attitude means of the social attitudes Q sort and the educational attitudes Q sorts generally supported the hypothesis of liberal-progressive and conservative-traditional patterns.

Factor analysis. Using the criterion of analyzing 95 per cent of the communality in a principal factor solution as discussed by Harman (p. 160) four KQED, five SQED, and four social attitude factors were retained for rotation. The first two rotated factors for each sort that are referred to

as the major factors accounted for a major proportion of the common factor variance:

| | Factor A | Factor B | Cum. % |
|---|---|---|---|
| KQED | 32.92 | 36.01 | 68.93 |
| SQED | 37.89 | 31.17 | 69.06 |
| Social Attitude* | 34.39 | 28.77 | 63.16 |

It is with reference to these factors that the results will be discussed although the factor loadings for all the rotated factors are appended in Tables 1, 2, and 3. A factor loading $\geq .30$ was considered significant for this study.

When significant factor loadings on the liberalism and progressivism factors, on the one hand, and the conservatism and traditionalism factors on the other hand, were compared, the following patterns emerged. Of the total sample of 36 subjects, 18 had significant loadings on the liberalism factor. These 18 comprise the two subgroups of liberals and progressives. These subjects also loaded on the progressivism factor, thereby supporting the hypothesis of a liberalism-progressivism pattern. The conservative-traditionalism pattern also emerged, although not as clearly. Fourteen out of the 18 subjects in these subgroups had significant loadings on the conservatism factor and the liberalism factor.

Coefficients of congruence. The coefficients of congruence between the liberalism factor of the social attitudes sort and the progressivism factor

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*The social attitude factor analytic literature has established the existence of a liberal-conservative factor. These dimensions were taken to be opposite ends of a bipolar factor; in other words, liberalism and conservatism defined two opposite poles of a single factor. The results of the factor analysis of the social attitudes Q sort used in this study did not seem to be consistent with these findings. Rather, two separate factors emerged that defined the dimensions of liberalism and conservatism respectively.

of each of the education sorts and similarly between the conservatism factor and the traditionalism factors yielded an objective criterion for determining the relation between these factors:

| | Liberalism - Progressivism Factor A | Conservatism - Traditionalism Factor B |
|---|---|---|
| Social Attitude - KQED | .92 | .89 |
| Social Attitude - SQED | .92 | .86 |

It appears that there is factorial similarity between the liberalism factor and the progressivism factor and between the conservatism factor and the traditionalism factor.* The subjects in this study who were liberal in their social attitudes also tended to be progressive in their educational attitudes and the subjects, although to a lesser extent, who were conservative in their social attitudes also tended to be traditional in their educational attitudes.

The results of this study, then, within the limited generalizations permitted by its design, seem to be in keeping with other studies that have attempted to demonstrate a generalized attitude structure of individuals and to define more inclusive patterns of attitude organization; for example, Adorno et al's authoritarian personality study (1950), Rokeach's open and closed belief systems work (1960), and, to a lesser extent, McClosky's characteristic conservative focus (1958).

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*For comparative purposes you may wish to know the results of the coefficients of congruence computed between the progressivism factors of KQED and SQED and also between the two traditionalism factors. For the two progressivism factors the coefficient was .96 and for the two traditionalism factors it was .97.

TABLE I

KQED ROTATED FACTOR MATRIX (V)[ab]

| | Subjects | A | B | C | D | $h^2$ |
|---|---|---|---|---|---|---|
| | 1 | 705 | -354 | 215 | 269 | 669 |
| | 2 | 844 | -209 | 218 | -125 | 819 |
| | 3 | 716 | -444 | 186 | -027 | 745 |
| | 4 | 574 | -038 | 110 | 020 | 343 |
| Liberal | 5 | 844 | -079 | -077 | 039 | 726 |
| | 6 | 812 | -116 | 086 | 097 | 690 |
| | 7 | 562 | 174 | 299 | 203 | 477 |
| | 8 | 393 | -156 | 202 | 636 | 624 |
| | 9 | 814 | -098 | -040 | 187 | 709 |
| | 10 | 005 | 719 | -086 | -110 | 536 |
| | 11 | -042 | 657 | 079 | 101 | 450 |
| | 12 | 258 | 294 | 763 | 064 | 739 |
| | 13 | 012 | 164 | 725 | 484 | 787 |
| Conservative | 14 | 205 | 648 | 224 | -067 | 517 |
| | 15 | 188 | 301 | 127 | 056 | 145 |
| | 16 | 174 | 732 | 160 | 037 | 593 |
| | 17 | -099 | 731 | 109 | -294 | 642 |
| | 18 | -274 | 664 | 132 | 071 | 538 |
| | 19 | 854 | 021 | 107 | 006 | 741 |
| | 20 | 635 | -367 | 207 | -132 | 598 |
| | 21 | 613 | -148 | 250 | 545 | 757 |
| | 22 | 454 | -162 | 678 | 105 | 703 |
| Progressive | 23 | 458 | -050 | 585 | -049 | 557 |
| | 24 | 554 | -324 | 282 | 535 | 778 |
| | 25 | 557 | -231 | 254 | 356 | 555 |
| | 26 | 543 | -479 | 190 | 121 | 575 |
| | 27 | 774 | -125 | 136 | 295 | 720 |
| | 28 | -337 | 753 | -013 | -072 | 686 |
| | 29 | -362 | 783 | -110 | -003 | 756 |
| | 30 | -075 | 802 | 008 | -166 | 676 |
| | 31 | -353 | 736 | -213 | -173 | 742 |
| Traditional | 32 | -117 | 841 | 054 | -068 | 734 |
| | 33 | -074 | 789 | -056 | -027 | 632 |
| | 34 | -163 | 770 | -157 | -023 | 645 |
| | 35 | -207 | 769 | 074 | 219 | 688 |
| | 36 | -224 | 766 | 157 | 001 | 662 |

[a] All decimal points are omitted.

[b] Significant factor loadings are underlined.

TABLE II

SQED ROTATED FACTOR MATRIX (V)[ab]

| | Subjects | A | B | C | D | E | $h^2$ |
|---|---|---|---|---|---|---|---|
| | 1 | 713 | -412 | 063 | 168 | 101 | 721 |
| | 2 | 660 | -324 | 161 | 047 | 117 | 582 |
| | 3 | 629 | -381 | -108 | -114 | 251 | 628 |
| | 4 | 508 | 016 | -142 | 045 | 002 | 281 |
| Liberal | 5 | 790 | -098 | -084 | -067 | 148 | 667 |
| | 6 | 631 | 108 | -012 | 278 | 008 | 487 |
| | 7 | 770 | 092 | -153 | 115 | -015 | 638 |
| | 8 | 661 | -168 | -051 | 390 | 182 | 653 |
| | 9 | 852 | -166 | -176 | 054 | -047 | 790 |
| | 10 | -205 | 644 | 458 | -071 | 183 | 705 |
| | 11 | -277 | 438 | 327 | -135 | -221 | 443 |
| | 12 | 266 | 196 | 114 | 766 | 172 | 739 |
| | 13 | 353 | 429 | 073 | 539 | 207 | 647 |
| Conservative | 14 | 228 | 568 | -021 | 089 | -006 | 383 |
| | 15 | 139 | 301 | 787 | 033 | 008 | 730 |
| | 16 | 060 | 528 | 297 | -476 | -030 | 598 |
| | 17 | -196 | 494 | 608 | 090 | -086 | 668 |
| | 18 | -284 | 647 | 438 | 067 | -011 | 696 |
| | 19 | 789 | 049 | 021 | 026 | 199 | 666 |
| | 20 | 844 | -155 | 045 | -006 | 062 | 742 |
| | 21 | 706 | -310 | -081 | 216 | 040 | 649 |
| | 22 | 497 | -066 | 007 | 329 | 603 | 723 |
| Progressive | 23 | 500 | 031 | 006 | 212 | 718 | 811 |
| | 24 | 620 | -367 | -267 | 046 | 351 | 716 |
| | 25 | 776 | -216 | 099 | 151 | 162 | 708 |
| | 26 | 683 | -353 | -029 | 115 | 094 | 614 |
| | 27 | 750 | -288 | 021 | 071 | 207 | 694 |
| | 28 | -434 | 670 | 282 | 080 | -053 | 726 |
| | 29 | -576 | 578 | 000 | 237 | -184 | 756 |
| | 30 | -214 | 781 | 039 | 070 | 057 | 665 |
| | 31 | -230 | 787 | 038 | 112 | -363 | 818 |
| Traditional | 32 | 003 | 843 | 071 | -225 | 107 | 778 |
| | 33 | -275 | 788 | -021 | 116 | -157 | 735 |
| | 34 | -067 | 834 | 261 | 154 | -169 | 820 |
| | 35 | -312 | 677 | 322 | -075 | 191 | 701 |
| | 36 | -259 | 774 | 180 | 102 | 010 | 709 |

[a] All decimal points are omitted.

[b] Significant factor loadings are underlined.

TABLE III

SOCIAL ATTITUDES ROTATED FACTOR MATRIX (V)[ab]

| | Subjects | A | B | C | D | $h^2$ |
|---|---|---|---|---|---|---|
| | 1 | 683 | -274 | -280 | 080 | 626 |
| | 2 | 529 | -543 | -170 | 296 | 691 |
| | 3 | 656 | -201 | -310 | 431 | 753 |
| | 4 | 722 | -103 | -349 | 144 | 674 |
| Liberal | 5 | 752 | -360 | -023 | 137 | 714 |
| | 6 | 739 | 022 | -112 | 273 | 695 |
| | 7 | 648 | -398 | -199 | 066 | 622 |
| | 8 | 720 | -200 | 087 | -124 | 581 |
| | 9 | 862 | -095 | -155 | 210 | 820 |
| | 10 | -161 | 519 | 557 | 115 | 619 |
| | 11 | -158 | 801 | 083 | 138 | 692 |
| | 12 | 057 | 270 | 831 | 079 | 773 |
| | 13 | -191 | 190 | 830 | -004 | 761 |
| Conservative | 14 | 098 | 837 | 149 | -081 | 739 |
| | 15 | -134 | 609 | 442 | -097 | 594 |
| | 16 | 088 | 749 | 218 | -208 | 660 |
| | 17 | -327 | 628 | 447 | 122 | 716 |
| | 18 | -417 | 470 | 486 | -068 | 636 |
| | 19 | 742 | -049 | 187 | 382 | 734 |
| | 20 | 745 | 136 | 169 | -073 | 607 |
| | 21 | 731 | 188 | -046 | 138 | 591 |
| | 22 | 409 | -040 | 104 | 710 | 683 |
| Progressive | 23 | 391 | 098 | 105 | 766 | 760 |
| | 24 | 638 | -190 | -263 | 383 | 659 |
| | 25 | 812 | -080 | 088 | -077 | 679 |
| | 26 | 477 | -360 | -185 | 232 | 445 |
| | 27 | 673 | -142 | -196 | 198 | 551 |
| | 28 | -479 | 608 | 238 | -117 | 669 |
| | 29 | -086 | 541 | 164 | -172 | 357 |
| | 30 | 209 | 137 | -020 | 183 | 096 |
| | 31 | -236 | 745 | 212 | 051 | 658 |
| Traditional | 32 | 149 | 425 | 229 | -010 | 255 |
| | 33 | -046 | 781 | -080 | 169 | 647 |
| | 34 | -113 | 793 | 055 | 057 | 648 |
| | 35 | -235 | 740 | 300 | -222 | 742 |
| | 36 | -037 | 271 | 343 | 077 | 198 |

[a] All decimal points are omitted.

[b] Significant factor loadings are underlined.